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IMPLEMENTING A COMMUNITY BIPOLAR SCREENING QUESTIONNAIRE

An analysis of Bipolar Spectrum Disorder screening questionnaires
and their utility

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Family Medicine Rotation #2, June 2017
Preceptor: Dr. Whitney Calkins



MENTAL HEALTH IN VERMONT

Table [1]

PREVALENCE OF SERIOUS MENTAL ILLNESS AMONG ADULTS, BY STATE (2016)							
State	Adult population	Adults w/ schizo-phrenia (SZ)	Adults with SZ untreated	Adults with severe bipolar (BP)	Adults with severe BP untreated	Total adults with SZ & severe BP	Total adults with SZ & severe BP untreated
Vermont	506,066	5,567	2,227	11,133	5,700	16,700	7,927

“Dr. Bob Emmons, a psychiatrist with a private practice in Burlington, agrees his profession is undervalued. He also says Vermont is unattractive for psychiatrists because of its broken mental health system. “The shortage of inpatient beds makes psychiatric practice in Vermont less appealing,” he said. ‘It is not pleasant, or safe, to try to take care of an outpatient who really needs to be in a hospital.’ ” [2]

- It is important to realize the breadth of the mental health crisis in Vermont. There is a lack of inpatient beds, a lack of psychiatrists and lack of resources and funding. Focusing on individuals with bipolar spectrum disorder: there are 11,113 individuals with Bipolar disorder and of those 5,700 are untreated; this means that only about 50% of people with Bipolar Spectrum Disorder are treated.



PUBLIC HEALTH COST (U.S.)

- The National Institute of Mental Health estimates the number of adults with a diagnosed mental disorder is nearly 1 in 5, this equates to about 43 million Americans [3].
- About 20 percent of children from 13–18 years old currently have or have had a seriously debilitating mental disorder in their lifetime [3].
- Data has also suggests that mental illness is second only to heart disease in terms of patients' lost years of life [3].
- The United States still faces an overall lack of mental health providers, it has been estimated that over 77% of US counties have a severe shortage of psychiatrists, with 55% of US counties not having a single psychiatrist in the area [3].



PUBLIC HEALTH COST (VT)

- The national shortage of psychiatrists has hit Vermont particularly hard. There has been both a lack of funding and a lack of psychiatrists. For example there is often a waiting line for acute level 1 beds at the Vermont Psychiatric Care Hospital since it opened after the flooding of the state hospital in 2011 [4].
- Per Seven Days VT the shortage of psychiatrists has hit outpatient and family medicine hard. According to Alice Silverman, one of the few psychiatrists in Caledonia County: “General practitioners do the best they can. But they lack the diagnostic skill to perform specialized evaluations of the biological, psychological and social factors that contribute to mental illness. Primary-care physicians are the least able to spend time to figure out the bio-psycho-social assessment, which is what a psychiatrist does... If you’re seeing 40 people a day, that’s not going to happen [5].”
- The shortage spreads to designated private mental health agencies like, the Howard Center which works closely with outpatient practitioners. According to a Report on the Green Mountain Care Board’s Analysis of Howard Center’s Budget, lack of funding is proving to be catastrophic for patients and their families: “We believe that underfunding of the organization, resulting in significant staffing gaps and challenges, in turn leads to substantial unmet needs in the community Howard Center serves and hardship for those individuals and families [6].”
- The Howard Center alone treats over 15,000 patients and it is estimated that 1 in 5 Vermonters has a diagnosable mental health disorder. This is clearly a pervasive problem and a public health crisis [7].



COMMUNITY PERSPECTIVE (A)

Lee Rosen Ph.D, M.S.
Clinical Assistant Professor
Department of Psychology
Robert Larner M.D. COM

- **What are your thoughts on the shortage of psychiatrists in Vermont?**

There is no question that there is a psych shortage and anybody who interacts with the mental health population will tell you that getting somebody in requires a lot. If you're willing to pay out of pocket to the tune of hundreds of dollars you could potentially get in quickly but if you're an average person then it is much more difficult. An average person trying to get in, in like 6 months is not uncommon and that may just be seeing a resident. I am no longer shocked by that. To get a kid seen by a child psychiatrist is even longer.

- **What are your thoughts regarding family medicine/primary care being the primary point of contact for many mentally ill patients in Vermont?**

People getting referred from family medicine are in pretty acute distress or have to hang in there for another few months or have to be managed in a few months. Family medicine doesn't have time to be up to date on all the latest treatments and diagnoses. That puts patients in a pretty precarious position and creates stress for providers. If you're lucky and you're working in a medical home model then at least there's a behavioral health specialist present.

- **On that note, many Family Med doctors do screening questionnaires for their patients including the PH2 and SASQ, what do you think about using the MDQ for diagnosis of Bipolar Spectrum Disorder?**

Bipolar is one of those things that tends to be poorly understood. It is muddled by bipolar II diagnosis. You need a semi-structured interview otherwise the reliability for bipolar diagnosis is pretty low. Undiagnosed bipolar can end up being a disaster if a patient has a manic episode. With respect to the other questionnaires: depression, anxiety and substance abuse are extremely prevalent and have to be screened for. The thing I like about questionnaires like the MDQ is that they are very efficient ways of gathering a lot of information without having to spend an hour doing a clinical interview.

- **In my research I found that the MDQ has an excellent sensitivity and specificity (0.73 and 0.9) in the psychiatric outpatient setting (when using the SCID as a gold standard), however in the primary care setting the sensitivity drops to 0.28 and the specificity remains largely the same ~0.9. In light of this, do you still think it is a worthwhile questionnaire to use in the primary care setting?**

It's way better than not doing it. I think the idea of doing the MDQ in a primary setting is an interesting question. I like the idea of covering those territories. If a patient screens positive for bipolar then it is an automatic referral to psychiatry but based on my clinical experience that is a situation when you want to be teamed up with a specialist: because the medication is heavy duty, getting patients to be compliant can be difficult, people tend to report serious side effects and tuning the dosage is tricky. I am sure family medicine would not be thrilled with prescribing lithium and I would want that to be in the hands of someone with a lot of experience because these medications are dangerous and those cases are complex. Also psychotherapy is often necessary too because they may have to come to terms with the diagnosis. If you discern true bipolar one, then the clock is ticking, you just don't know if a disastrous event is waiting to happen. So, yes, absolutely, the sensitivity numbers are not great but on the other hand we have to work with what we got. If you can do it efficiently it's way better to have someone do it at some point. I really like the idea of that questionnaire in the primary care setting.



COMMUNITY PERSPECTIVE (B)

Laura McCray, M.D. MSCE
Program Director, Family Medicine
Residency
UVMMMC

- **What are your thoughts on the shortage of psychiatrists in VT?**
It presents a lot of challenges for patients and providers alike. PCPs do not have consult services for higher level psychiatric issues, including acute psychosis, mania, or suicidality. Primary care is providing the front line of psychiatric care in our state. Our emergency rooms are also back logged with psychiatric patients waiting for inpatient admission, and acutely suicidal patients are often on our medical inpatient services awaiting placement. Patients express frustration that they are not receiving the psychiatric care that they need, especially in the acute setting.
- **What are your thoughts regarding family medicine/primary care being the primary point of contact for many mentally ill patients in Vermont?**
I think primary care physicians do an incredible job of managing mental health issues, and are well trained and prepared to provide care for classic depression and anxiety. I feel we are under resourced to provide care for those with psychosis, acute bipolar disorder, and/or suicidality.
- **On that note, many Family Med doctors do screening questionnaires for their patients including the PH2 and SASQ, what do you think about using the MDQ for diagnosis of Bipolar Spectrum Disorder?**
Looks like a useful tool. Is it a validated measure? And is it validated in the primary care population? As a PCP, I typically use my own screening questions for bipolar disorder, which are very similar to those in the MDQ. Often, we don't have time to administer full questionnaires. It would be useful if our CCAs would be able to give the patients screening tools ahead of time (or a computer kiosk or iPad for the patient to fill them out ahead of time)
- **In my research I found that the MDQ has an excellent sensitivity and specificity (0.73 and 0.9) in the psychiatric outpatient setting (when using the SCID as a gold standard), however in the primary care setting the sensitivity drops to 0.28 and the specificity remains largely the same ~0.9. In light of this, do you still think it is a worthwhile questionnaire to use in the primary care setting?**
Aha- so it has been tested in the primary care setting. I imagine the sensitivity is a lot lower because we (PCPS) see a lot of comorbid chronic disease. Probably not the best screening tool for Primary care.
- **If yes to the previous question, then what do you think is the next best step in patient treatment should they screen positive for Bipolar Spectrum Disorder on the MDQ? Should FM doctors treat or refer?**
We don't have anyone to refer to!! When I have a patient with acute mania, I can't wait 6-12 months for the consultation (at best). I usually use a more sedating newer antipsychotic (i.e. Seroquel or Zyprexa) for acute symptoms and then trial a mood stabilizer (lithium, Depakote) while we are waiting to get a psychiatrist involved.
- **Any other thoughts or comments on psychiatry/diagnosing bipolar spectrum disorder in Vermont?**
As per the literature, I think the diagnosis of BPD can be missed frequently in primary care. We could target training/education at a variety of venues, including at the medical student level, resident level (didactics), or at faculty level (academic detailing in each of the primary care offices). This is a service provided by the hospital to educate the faculty out in practice on the latest EMB for a variety of conditions. They come out at lunchtime to the office and provide training to providers on site.



INTERVENTION AND METHODS

- In light of the shortage of resources and psychiatrists in Vermont it is important to maximize the limited time that family practitioners have with patients with mental illness. Currently the South Burlington Family Practice Clinic uses two questionnaires for mental health screening: the PHQ2 (Depression, if positive patients then fill out the PHQ9 and if necessary, the GAD7 for anxiety) and the SASQ (substance use disorder). However, there is no screening questionnaire for Bipolar Disorder.
- The most reliable and valid way to obtain a diagnosis of bipolar disorder is through a structured interview with a trained clinician.
- The three most commonly used interview measures are the Structured Clinical Interview for *DSM-IV* (SCID), the Schedule for Affective Disorders and Schizophrenia (SADS) and the Composite Interview Diagnostic Interview (CIDI) [8].
- All of these structured interview questionnaires require a trained clinician and are time consuming, thus they are not appropriate for the limited time of family medicine visits.



INTERVENTIONS AND METHODS (CONT.)

- Given the time commitment involved in conducting structured interviews, several self-report measures have been developed to help clinicians identify individuals most likely to meet criteria for bipolar disorders.
- Unfortunately these measures do not provide the best diagnostic accuracy, but, rather, might help identify people who should warrant more careful diagnostic interviews
- The most commonly used methods are the General Behavior Inventory (GBI) and the Mood Disorder Questionnaire (MDQ) [8].
- The GBI is a 73 item questionnaire, which is impractical for the family medicine setting; **however the MDQ is a 17 question survey and thus much more practical for an outpatient setting.**

Mood Disorder Questionnaire [9]

Instructions: Please answer each question to the best of your ability.

	YES	NO
1. Has there ever been a period of time when you were not your usual self and...		
...you felt so good or so hyper that other people thought you were not your normal self or you were so hyper that you got into trouble?	<input type="radio"/>	<input type="radio"/>
...you were so irritable that you shouted at people or started fights or arguments?	<input type="radio"/>	<input type="radio"/>
...you felt much more self-confident than usual?	<input type="radio"/>	<input type="radio"/>
...you got much less sleep than usual and found you didn't really miss it?	<input type="radio"/>	<input type="radio"/>
...you were much more talkative or spoke much faster than usual?	<input type="radio"/>	<input type="radio"/>
...thoughts raced through your head or you couldn't slow your mind down?	<input type="radio"/>	<input type="radio"/>
...you were so easily distracted by things around you that you had trouble concentrating or staying on track?	<input type="radio"/>	<input type="radio"/>
...you had much more energy than usual?	<input type="radio"/>	<input type="radio"/>
...you were much more active or did many more things than usual?	<input type="radio"/>	<input type="radio"/>
...you were much more social or outgoing than usual, for example, you telephoned friends in the middle of the night?	<input type="radio"/>	<input type="radio"/>
...you were much more interested in sex than usual?	<input type="radio"/>	<input type="radio"/>
...you did things that were unusual for you or that other people might have thought were excessive, foolish, or risky?	<input type="radio"/>	<input type="radio"/>
...spending money got you or your family into trouble?	<input type="radio"/>	<input type="radio"/>
2. If you checked YES to more than one of the above, have several of these ever happened during the same period of time?	<input type="radio"/>	<input type="radio"/>
3. How much of a problem did any of these cause you – like being unable to work; having family, money or legal troubles; getting into arguments or fights? <i>Please circle one response only.</i>		
No Problem Minor Problem Moderate Problem Serious Problem		
4. Have any of your blood relatives (i.e. children, siblings, parents, grandparents, aunts, uncles) had manic-depressive illness or bipolar disorder?	<input type="radio"/>	<input type="radio"/>
5. Has a health professional ever told you that you have manic-depressive illness or bipolar disorder?	<input type="radio"/>	<input type="radio"/>



RESULTS

- The first 13 items of the MDQ ask about manic symptoms as defined by the *DSM-IV* using a yes–no format.
- A positive screen is at least: 7 of the first 13 items must be endorsed ‘Yes’, number 2 must be answered ‘Yes’ and number 3 must be answered ‘Moderate’ or ‘Serious’ [10].
- A study examining the validity of the MDQ used 7/13 items as a cutoff and found that it provided good sensitivity (0.73, 95% [CI]=0.65–0.81) without sacrificing specificity (0.90, 95% CI=0.84–0.96) [10].
- Researchers found that a higher threshold of cutoffs resulted in a decrease in sensitivity with no appreciable increase in specificity and similarly, lower threshold cutoffs resulted in loss of specificity [10].
- What does this mean? The optimal 7/13 cutoff resulted in 7 out of 10 people with bipolar spectrum disorder to be correctly identified by the MDQ (sensitivity), and 9 out of 10 of those without a bipolar spectrum disorder would be successfully screened out (the SCID was used as the diagnostic gold standard for comparison).
- It is important to mention that this study was conducted in 2000 at 5 **psychiatric** outpatient clinics and only 198 patients were tested.
- Another study was conducted in a community setting by the same researchers who validated the MDQ. A total of 695 individuals were surveyed (again using the SCID as the gold standard). Researchers found the MDQ had a sensitivity of 0.28 and a specificity of 0.97 [11].
- These researchers concluded that the MDQ is a useful screening instrument for bipolar I and II disorders in the community even though the MDQ performs differently in the general population as compared to the outpatient psychiatric setting [11].



EVALUATION OF EFFECTIVENESS AND LIMITATIONS

- The USPSTF currently has no recommendations for the specific screening of bipolar disorder, they suggest screening for depression.
- According to a review on bipolar disorder published in American Family Physician, the medical evaluation of patients with a suspected bipolar disorder, with questionnaires like the MDQ, is based on ruling out other causes of the patient's symptoms and can assist in selecting a treatment/medication [12].
- With a high negative predictive value, the Mood Disorder Questionnaire can be useful in ruling out bipolar disorders, but they are not sufficient to confirm a diagnosis [12].
- The MDQ has been proven to be effective in a psychiatric outpatient setting and been proven to be less effective or limited in the outpatient setting. However we must weigh the risks and benefits. In a setting like Vermont, with restricted resources, limited inpatient beds, lack of psychiatrists and a population of individuals with undiagnosed bipolar spectrum disorder the MDQ can prove to be more useful than harmful.



RECOMMENDATIONS FOR FUTURE

- A trial should be performed in Vermont analyzing the validity and reliability of the MDQ in the Vermont population.
- Indeed, the best way to analyze this would be to conduct phone interviews with randomly selected Vermonters and test the MDQ whilst using the SCID as the gold standard. However, this would be an expensive experiment.
- Rather it may be more feasible to use the MDQ in all new patient visit questionnaire packets for a determined period of time in order to capture possible cases of bipolar spectrum disorder. If a patient screens positive for bipolar spectrum disorder, physicians could note this and follow the patient closely and at a more convenient time conduct a semi structured interview using a more sensitive questionnaire or ask patients to fill out the more sensitive questionnaire at home and send it in or bring back at the next visit.
- If the MDQ proves to be useful in the Vermont population, based on this potential trial, it's use as a screening questionnaire across Vermont could potentially be warranted.
- As was suggested by researchers and the interviewees it is important to identify and help people with bipolar spectrum disorder. The MDQ can help by ruling out those without bipolar spectrum disorder, and those who have a positive MDQ can be further assessed and more importantly helped and treated.
- Per Dr. McCray, it may also be useful to develop educational materials or a talk to help teach outpatient and family medicine doctors about identifying patients with possible bipolar spectrum disorder. This may ultimately be a more feasible route as it would require teaching physicians the DSM V criteria for bipolar spectrum disorder.
- I would also suggest that more family practitioners and psychiatrists be interviewed about their thoughts on this matter.



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